Claims

1. A swellable hydrogel-forming polymer comprising at least one hydrophilic polymer of dendritic structure and at least one water-insoluble phosphate.

2. The polymer according to claim 1 wherein said hydrophilic polymer of dendritic structure is a polyester formed from a polyol and 2,2-dimethylolpropionic acid.

3. The polymer according to claim 1 wherein said hydrophilic polymer of dendritic structure is a polypropyleneimine, a polyamidoamine or a polyesteramide.

4. The polymer according to any of claims 1 to 3 wherein said water-insoluble phosphate is a calcium phosphate.

5. The polymer according to any of claims 1 to 4 further comprising a powdery and/or dusty additive.

6. The polymer according to claim 5 wherein said additive is a metal salt, a pyrogenic silica, a polysaccharide, a nonionic surfactant, a wax and/or diatomaceous earth.

7. The polymer according to claim 5 or claim 6 wherein said additive is present in the form of hollow microspheres which are from 1 to 1000 µm in diameter and whose wall thickness comprises from 1% to 10% of said diameter.

8. The polymer according to any of claims 1 to 7 comprising less than 50 weight ppm of particles less than 10 µm in diameter.

9. The polymer according to any of claims 1 to 8 comprising less than 50 weight ppm of particles less than 10 µm in diameter after exposure to mechanical stress.

10. The polymer according to any of claims 1 to 9 wherein not less than 90% by weight of the particles are between 150 and 500 µm in diameter and which is characterized by a CRC of not less than 25 g/g, an AUL of not less than 22 g/g and an SFC of not less than 80×10^{-7} cm^3 s g^{-1}.

11. The polymer according to any of claims 1 to 9 wherein not less than 90% by weight of the particles are between 100 and 600 µm in diameter and which is characterized by a CRC of not less than 25 g/g, an AUL of not less than 22 g/g and an SFC of not less than 60×10^{-7} cm^3 s g^{-1}.

12. The polymer according to claim 11 wherein not less than 95% by weight of the particles are between 100 and 600 µm in diameter.

13. The polymer according to claim 11 or 12 wherein not less than 99% by weight of the particles are between 100 and 600 µm in diameter.

14. The polymer according to any of claims 1 to 13 characterized by a CRC of not less than 26 g/g and an AUL of not less than 23 g/g.

15. The polymer according to any of claims 1 to 14 characterized by a CRC of not less than 30 g/g and an AUL of not less than 25 g/g.

16. The polymer according to any of claims 1 to 15 characterized by an SFC of not less than 80×10^{-7} cm^3 s g^{-1}.

17. The polymer according to any of claims 1 to 15 characterized by an SFC of not less than 120×10^{-7} cm^3 s g^{-1}.

18. A process for preparing a swellable hydrogel-forming polymer, which comprises aftertreating a hydrogel with at least one hydrophilic polymer of dendritic structure and with at least one water-insoluble phosphate.

19. The process according to claim 18 wherein said aftertreating is carried out together with a surface-postcrosslinking operation.

20. The process according to claim 19 wherein the solvent which comprises at least one surface postcrosslinker is a mixture of isopropanol and water.

21. The use of hydrophilic polymers of dendritic structure for binding water-insoluble phosphates on swellable hydrogel-forming polymeric particles.